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Dr. Leo. J. Engelmann

A SUCCESSFUL CASE OF KOLPOHYSTERECTOMY.

AN IMPROVED METHOD WITH REMARKS.

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A SUCCESSFUL CASE OF TOTAL EXTIRPATION OF THE UTERUS THROUGH THE VAGINA.

WITH TWO ORIGINAL DIAGRAMS.

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Mrs. P——, from Texarkana, æt. 52, no hereditary incumbrance, has always been rather weak, had a great deal of trouble during her life with her family, menstruation commenced at 14, has always been regular, has had four children, all boys, and one miscarriage. Suffered a great deal of pain in back and hips and was thought to have ulceration of the cervix. During the year 1883 she lost strength continually, was always under treatment in the country, until finally one of our Professors of Gynæcology, who has a clinic, told her that she had cancer of the womb and he could do nothing for her. She first came to my office Dec. 6th, 1883 and on examination revealed the presence of an epithelioma of the vaginal portion of the uterus. The tumor was hard and well defined and surrounded the os, in the shape of a horse shoe, upon the left side, leaving a small margin at the right angle of the os entirely free. A narrow strip of the mucous membrane of the vaginal vault upon the left side was also ulcerated and in connection with the tumor surrounding the os. The cavity of the uterus proved of normal length, the position and mobility of this organ were also normal. The parametria and surrounding tissue were found intact. Several years ago it would have been thought perfectly correct to perform amputation of the cervix or SCHROEDERS supra-vaginal amputation in this case. Only since SCHROEDER of Berlin published his first series of eight cases of KOLPOHYSTERECTOMY, seven of which were successful, have many Gynecologists and Surgeons arrived at the

very natural conclusion that this operation deserves to come into general use. One reason for this conclusion which principally caused me to adopt this operation was the most aggravating certainty of return with which my amputation and *évidements* of cancers of the uterus were always followed and that too in the course of a very few months, no matter how radical my operations seemed to be. This method of treatment holds out a hope to us, and at least promises to stave off the return a little longer since we remove the whole of the affected organ. The literature of this operation has increased to an enormous extent lately and I have now in my possesssion a history of one-hundred and sixty cases including three cases, that I have found in recent American periodicals, and my own. This list shows one-hundred and eighteen recoveries and forty-two deaths, which I call a most brilliant showing for a new operation. Many of the above mentioned cases being the first attempts of the operators. I can not, in the limits of this article, offer either an accurate tabulated statement of the cases from literature nor can I enter into a discussion of the numerous modifications which the different steps of the operation have undergone at the hands of various operators. The great variety of methods and modifications, in the details of the operation as practiced by different surgeons, are a proof of the many difficulties to be overcome. I believe this operation to be one of the most difficult that our duty compels us to undertake and I would not advise any one, who has not become thoroughly accustomed to the use of instruments in the vagina by previous gynæcological practice, to attempt it. Such surgeons as have frequently and successfully operated for vesico or utero-vaginal fistula may cheerfully attempt this crowning achievement of gynæcological surgery with a fair prospect of success. I would not have dared to make this assertion however before my recent experience. When reading the accounts of such elegent and experienced operators as CZERNY of Heidelberg we meet with expressions like the following: "The operation lasted three hours and was very bloody" or in another place "Since no urine was passed by the catheter immediately after the operation, which had lasted over three hours and since none passed, next day, we were much surprised, at the post mortem, to find a loop of the small intestine, firmly attached in a hole, that had been cut as large as a cherry, discovered at the apex of the bladder, the patient having died forty hours after

the operation."—*Berliner Klinische Wochenschrift* Nov. 13th, 1882.—It seems to me but little comfort can be derived by any one contemplating his first total Kolpohysterectomy from such quotations. I will therefore leave the statistical work, as well as the comparison of the various modifications and suggestions of the different reports about this subject, to later writers and to such as are fortunately situated in some well endowed institution of medical science where they can devote more time, to the exact study this work will require and are not compelled to be the slaves of suffering humanity in a great American Metropolis. I merely wish to submit the following description of my operation and, as my method is a new one in regard at least to a technicality for avoiding arterial hemorrhage, I hope it will prove instructive enough to repay its perusal. As a further apology I will state that my method enabled me to finish the whole operation from the beginning of the narcosis until the removal of the patient to her bed in the short time of fifty-five minutes.

On Dec. 12th, 1883, at 10 A. M. at my private hospital No. 1207 Chouteau Ave., Drs. C. Barck, H. Wichmann, H. Harnisch, Robt. Luedeking, Andrew Leslie, J. R. Cheaney and Geo. J. Bernays assisted me in the above case. The preparations for the operation were of a simple nature, I had the vagina thoroughly cleansed, the evening previous to the morning of the operation, by injections with water. Whenever I say cleansed or use the expression clean, I mean all that can be covered by the widest extension of the word, I do not mean the use of so-called antiseptic solutions or drugs. Many of the latter are any thing but clean, and cannot even be said to cleanse the parts upon which they are used, on the contrary they are often very unclean and poisonous. I always clean the vagina after using caustics, styptics and antiseptics with water, Since I have seen that one, two and three per cent solutions of carbolic acid are splendid fluids wherein to breed and propagate colonies of bacteria I have ceased to use them in my operations and really I have found in numerous capital surgical operations that clean water is the best wash for wounds as well as the cleanest dressing. On the evening previous a pint of an effervescent solution of citrate of magnesia was administered and after the passage, the rectum was also cleansed by the use of pure water injections. Internally I have always found it a wise precaution, since my residence in the Mississippi Valley, o administer thirty

grains of sulphate of quinine the day before an operation, I combine this with chlorate of potash in capsules in all cases involving an opening of the abdominal cavity where it is desirable to have the bowels somewhat contracted. The narcotic used was MALLINCKRODT's Chloroform.* The patient was placed on her back with hips flexed upon the abdomen in Simon's overdone lithotomy position, one assistant holding each leg in this position. A broad flat Simon's speculum was introduced for the purpose of holding down the perineum and compressing the lower part of the rectum. It is important that this blade be rather short so that it will not interfere with the downward traction to be made upon the uterus. This speculum is entrusted to a third assistant, seated on a stool to my left, and if possible remains in position during the entire operation. The lateral and anterior walls are held wide apart by broad vaginal retractors and, after a catheter has been introduced into the bladder and one into the rectum which may become very useful guides, we are ready to begin the operation. I began by first grasping the vaginal portion with a vulsellum forceps and forcibly drawing it outwards and to the right, thereby stretching the left lateral vault of the vagina, and with it to a great extent the left parametrium, in a transverse direction; I now made a small incision, merely through the mucous membrane, near the middle of this tense mass of tissue a little toward the bladder, through this puncture I forced an aneurysm needle, armed with a very heavy double silk ligature, in such a manner, upwards and backwards, that I was bound to surround about one inch of the parametran tissue along the side of the uterus. I then forced the blunt point of the instrument down and outwards until it formed a prominence under the mucous membrane of the vagina, opposite the point of entrance but about three-fourths of an inch distant towards the rectum, cutting down upon the point it was immediately projected and the ligature caught by a tenaculum, after which the curved aneurysm needle was withdrawn, rethreaded and the same proceeding performed on the right parametrium.

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*Having the assurance from Dr. Frerichs, who for a number of years was the assistant of Prof. Woehler at Göttingen, and is himself an Authority, besides my own tests which fully corroborate his statements regarding the purity of Mallinckrodts Chloroform, I propose to inaugurate a revolution against the abuse of our confidence, made by certain firms who, having achieved a reputation in one direction, now charge us ridiculously high prices for their chloroform.

These ligatures embraced the lateral portions of the fornix of the vagina and as much of the parametrium as I could possibly reach, perhaps even a portion of the broad ligament proper. My intention was to grasp the uterine arteries in this ligature and thus obviate the principal sources of hæmorrhage that we must encounter.

MIKULICZ advised and used a superficial ligature, somewhat similiar on both sides, for the purpose of using them as loops with which to draw down the uterus. My ligatures had an entirely different purpose and were placed *without the area of the tissue to be extirpated*, far enough away from the cancerous tissue to avoid the danger of cutting them during the next steps. MIKULICZ'S ligatures were placed near the uterus and were within the area to be cut away; next I firmly tied one of my threads on each side, intending, if necessary, to use the loose ones as loops to draw down the parametria at a later stage, if this should be found expedient. Having assigned one assistant for sponges and one for instruments, I now proceeded to make a nearly circular incision through the fornix of the vagina around the neck of the womb and well within my *prophylactic ligatures*. There was very little bleeding indeed and I continued to dissec- up around the neck of the womb, carefully working upwards between the bladder and uterus in front, and between the rectum and uterus behind. By placing the narrow blade of the knife flat upon the womb and sticking close to it, this circumcision can be very safely and rapidly done, with little danger of cutting into the bladder, until we are high enough upwards to open the peritoneal cavity. We are made aware of any opening into the abdomen by the slightly whizzing sound of entering air, or, as in my case by, the escape of a little serum. I took up a probe pointed knife and under guidance of my finger finished the circumcision of the peritoneum around the body of the uterus, thus far hardly an ounce of blood was lost and I had every reason to be satisfied with my primary ligatures, as they had entirely obviated the necessity of applying any ligatures to stop hæmorrhage.

I now introduced my index finger, of the left hand, into the anterior *cul de sac* and, under its guidance, slipped a LANGENBECK'S blunt retractor over the fundus of the uterus and now, withdrawing my finger, I held the os uteri with a vulsellum in my left hand and the fundus with a retractor in my right. By al-

lowing the neck to go upwards with my left hand, I readily succeeded in doubling the organ upon itself and drawing the fundus with its attachments into the vagina, through the anterior *cul de sac* I grasped the fundus, with a one-pronged HEGAR'S womb-holder and drawing it first to one side I passed a handled needle with a double ligature, along the side of the body of the womb, in such a manner that I could pierce the broad ligament below the point where it covers the ligamentum rotundum. Again, catching the thread with a tenaculum, the needle was withdrawn and the ligatures fastened in such a manner that it firmly included the fallopian tube, the ovarian artery, the round ligament, in fact everything contained in the fold of the broad ligament. This being carefully done on both sides, I cut off the womb, well within the ligatures, in such a manner that they had sufficient peripheral tissue to prevent their becoming loosened too soon.

On examination the womb is now found to be quite loose and only held or swung, as it were, on an axis of parametran tissue, which is left between the gap cut into the broad ligament from above and the incision, or rather circumcision, which started from the neck. By pulling the womb first to one side and then to the other, a ligature is quickly thrown around this mass of tissue on both sides with the aneurism needle and these remnants firmly tied. All that was left to do now was to cut through these tissues, close to the body of the womb, when it fell out of the vagina with the vulsellum and HEGAR'S womb-holder attached ; I now cleansed the field of operation with warm water, drew the six ligatures together in a bunch and performed the toilet of the pelvic cavity. There was some little insignificant bleeding from an unknown source which ceased after a few sponges had been introduced. Water, which was allowed to run through the vagina from an irrigator, returned perfectly clear. An examination with my finger convinced me that the fornix of the vagina was well contracted, there was no tendency to prolapse of the bowels, and by very slightly drawing on the six ligatures the vault of the vagina was almost entirely closed by the stumps of the broad ligament, which were drawn down to a small knot on each side by the three ligatures.

Not knowing exactly what process of healing would ensue, I determined to simply leave the wound open, apply no sutures, either to the peritoneum or to the vaginal mucous

Fig. 1.

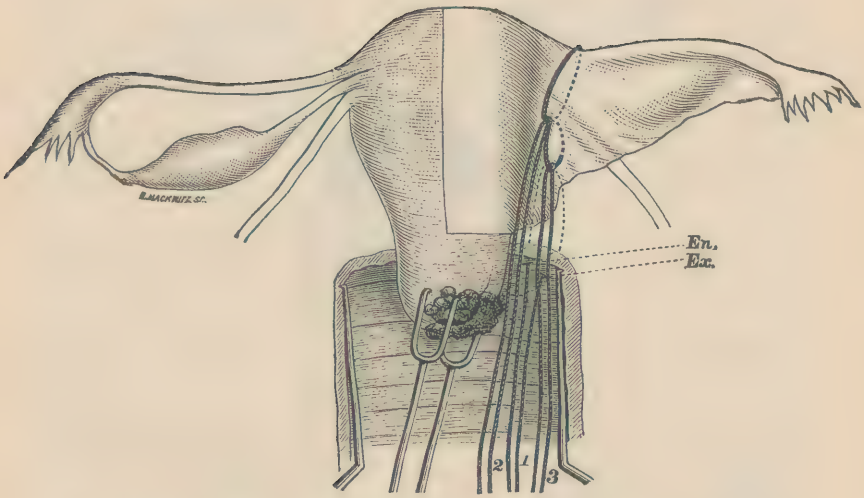

Fig. 1.—Shows the Epithelioma at the Os; the Vagina dilated, the womb pulled down by a vulsellum. The three ligatures are numbered in the order of their application. En, is the point of entrance of my *prophylactic ligature*, Ex, its point of exit. The dotted line shows the amount of tissue which it encompasses. The other ligatures are represented loosely drawn together in the diagram.

Fig. 2.

Fig. 2.—Shows the vault of the vagina partly closed by the stumps of the parametria or the broad ligaments. The three ligatures are all well tied and the ends hang down into the vagina. The Fallopian tubes and the broad ligaments are seen to come together and partly fill up the space which was left by the removal of the uterus. It becomes apparent that the small opening left in the peritoneal cavity between the ligated parametria will be obturated by a kind o valvular closure between anterior and posterior flaps of the vaginal fornix, and this kept *in situ* by the involuntary abdominal press.

membrane, but to trust that any secretions of the wound might be led outwards or drain, as it were, along the thick silk threads, into the vagina where they could be readily removed. I believed also that in this way I could secure the best physiological, as well as mechanical rest to the parts and would not be obliged to remove sutures on the fifth or sixth day. I therefore, without placing any tampon of cotton or any drainage arrangement whatever into the vagina, had the patient carried to her bed and an injection of morphine administered. My orders to the nurse were no nourishment at all for 24 hours and only a little chopped ice to allay thirst. The temperature of the patient at no time during the healing process reached 100° with the exception of one afternoon during the 6th day, when she had a chill followed by a temperature of 104°, that lasted about three hours. The house physician sent for me hastily that day, but an examination showed nothing particularly alarming, about one-half teaspoonful of slightly bloody matter was found in the cavity of Sims speculum. I will not weary the readers with a tabulated account of the daily pulse and temperature, but let the following *resume* give a short account of the healing process and after-treatment. During five days the water, used for injections, always returned slightly reddened to the bedpan but was not in the least offensive in smell. These injections were made three times daily and once about midnight. After this period there was a slight purulent discharge and about the eight day it became slightly offensive. About this time, also, a tender spot, in the right ovarian region, the size of a hens egg, developed, which remained for ten days and then gradually disappeared. During this period the pulse ranged from 100-120 beats, but, as the patient had some old heart trouble, traceable to an attack of articular rheumatism during her youth, no conclusions could be drawn therefrom. On the 16th day the first ligature came away, its loop was found to be about the size of a small lead pencil, the others gradually came away by the injections, which were reduced to only two per day, after the third week. The secretions now became very thick and of a yellow color. The patient left her bed, for the first time, on the 28th day, she gradually improved in looks, her appetite came back and she gained considerable in weight and left the hospital rejoicing on March the 13th. The vagina had completely closed up, there was no secretion at all, as there was no wound. The

vagina ended in a blind sack, like the finger of a glove, and there was no hardness to be felt anywhere.

From this single experience I should be very much inclined to believe, with Billroth, that the operation of KOLPOHYSTERECTOMY will soon become as safe and well established in surgery as the removal of a breast for cancer. I must add, however, that this can only be true of such cases where the disease is confined to the vaginal portion or the os. This would postulate the very early discovery of the cancerous disease. Since visits to the Gynæcologists office are fast beginning to take the place of "ladies fashionable morning calls" in larger cities of our country, we may cheerfully hope that the diagnosis of cancer of the womb will be made in its earliest stages when this operation will find a large, hitherto unknown, field of usefulness.

The easy manner of after-treatment and, in fact, the slight shock, which my patient sustained by the operation, was a revelation to me and set me to thinking whether or not ovariotomy might, in some cases, be advantageously performed through the vagina. On January 6th I operated upon a case of cyst of the board ligament through the vagina, and although this case was followed by considerable inflammation and suppuration, which drained off nicely through the large opening into the posterior *cul de sac*, the patient has entirely recovered; I am therefore still more sanguine in my opinion about the vaginal method for removing small tumors of the pelvic organs, than at first, and I will take occasion, in the near future, together with an accurate report of the above mentioned case to give my reasons for this opinion.

Finally, let me say, I had so much reason to be pleased with my primary or rather PROPHYLACTIC LIGATURES *en masse*, that I earnestly recommend them to all surgeons who may have occasion to perform this operation. Any amount of time spent in the careful and proper adjustment of these ligatures will never be regretted. When we compare the time consumed, or rather lost, in the very difficult and tedious application of ligatures to bleeding vessels in this operation, by the old method, with the time necessary to the application of my ligatures an enormous gain in their favor will be found.

The safety and certainty which is reached by this, almost bloodless method, is a great boon and relief to the operator and,

no doubt will help reduce the percentage of mortality that still attaches to this curative measure. I am aware that complicated instruments and contrivances, for ligating the uterine arteries, have been described and suggested. They have been given up however as impracticable. The simplicity of my method lets me think that a better fate awaits it.

NOTE.—Since the above operation I have constructed an instrument, for the purpose of drawing down the womb, which differs from others by being so constructed that it holds the womb firmly from within its cavity or canal.

At the same time it can be used to draw the entire womb to either side, so as to make the opposite parametrium tense and easily accessible for the application of my prophylactic ligatures. The instrument is also made with a view to allow of firm traction where the tissues of the womb are very friable.

An accurate description with cuts of this instrument will soon be ready for publication.